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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,839	09/13/2006	Frank Daniel Lotrionte	AP110-06	1097

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EXAMINER

KERSHTEYN, IGOR

ART UNIT	PAPER NUMBER
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3745

MAIL DATE	DELIVERY MODE
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02/27/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/598,839	Applicant(s) LOTRIONTE, FRANK DANIEL	
	Examiner Igor Kershteyn	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-26 is/are allowed.
- 6) ☒ Claim(s) 10-12, 17, 18 and 27 is/are rejected.
- 7) ☒ Claim(s) 13-16, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/13/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to because figure 6 includes text. The text has to be deleted. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

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The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The disclosure is objected to because of the following informalities:

The abstract contains more than 150 words.

Appropriate correction is required.

Claim Objections

Claim 10 recites the limitation "the free end" in line 9. There is insufficient antecedent basis for this limitation in the claim.

In claim 21, line 4, "an blade" should be changed to --a blade--,

In claim 21, lines 4-5, "an vane" should be changed to --a vane--.

Claim 21 recites the limitation "the free end" in line 6. There is insufficient antecedent basis for this limitation in the claim.

In claim 27, line 4, "an blade" should be changed to --a blade--,

In claim 27, lines 4-5, "an vane" should be changed to --a vane--.

Claim 27 recites the limitation "the free end" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Annelius (1,146,121).

In figure 1, Annelius teaches a rotor system for converting energy from a stream fluid, said rotor system comprising: a central hub 10 rotatable about an axis generally parallel to a fluid flow; and a plurality of vane units 11 radially arranged around said hub, each of said vane units having an inner airfoil section 12 and frontwardly protruding vane section 13, said inner airfoil section extending substantially outwards radially from said central hub at a slight rearward angle between 5 and 60 degrees from normal, said frontwardly protruding vane section being integrally formed to the free end of said inner airfoil section and generally orientated towards the direction of rotation, each of said vane units being generally twisted in a pitch angle about said hub that is generally parallel to the resultant flow direction so as to maximize the lift forces obtained from the resultant flow and converting into available torque; wherein said frontwardly protruding vane section having a length greater than its width, and an airfoil cross section that diminishes in chord length to form a curved outerpoint leading into the resultant fluid flow. Note. Since Applicant failed to claim with respect to what direction or orientation the vane section protruding frontwardly and the inner airfoil section protruding at a slight

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rearward angle, the Examiner takes the broadest reasonable interpretation of the above terms.

Claims 10-12, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Pearson (2,582,559).

In figures 1-8, Pearson teaches a rotor system for converting energy from a stream fluid, said rotor system comprising: a central hub 21 rotatable about an axis generally parallel to a fluid flow; and a plurality of vane units 32 radially arranged around said hub, each of said vane units having an inner airfoil section 32' and frontwardly protruding vane section 37, said inner airfoil section extending substantially outwards radially from said central hub at a slight rearward angle between 5 and 60 degrees from normal, said frontwardly protruding vane section being integrally formed to the free end of said inner airfoil section and generally orientated towards the direction of rotation, each of said vane units being generally twisted in a pitch angle about said hub (See Figure 1) that is generally parallel to the resultant flow direction so as to maximize the lift forces obtained from the resultant flow and converting into available torque; wherein said frontwardly protruding vane section having a length greater than its width, and an airfoil cross section that diminishes in chord length to form a curved outerpoint leading into the resultant fluid flow.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Annelius (1,146,121) in view of Hickey (5,254,876).

Annelius teaches all the claimed subject matter except that he doesn't teach a generating unit attachable to said hub.

Hickey, in figure 1, teaches a generating unit 22 attached to a hub of a rotor.

Since Annelius and Hickey are analogous art because they are from the same field of endeavor, that is the irregular blade rotor art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the rotor of Annelius with the rotor as taught by Hickey for the purpose of generating energy.

Claim 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Annelius (1,146,121) in view of Kimball (5,064,345).

Annelius teaches all the claimed subject matter except that he doesn't teach an annular rim attached to the forward most perimeters of said vane units.

Kimball, in figures 1-4, teaches a rotor 10, having a hub 18, vane units 14, and an annular rim 20 attached to the forward most perimeters of said vane units.

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Since Annelius and Kimball are analogous art because they are from the same field of endeavor, that is the swept blade rotor art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the rotor of Annelius with the annular rim as taught by Kimball for the purpose of reducing recirculation and improving the strength of the fan.

Allowable Subject Matter

Claims 21-26 would be allowable if rewritten or amended to overcome the objections, set forth in this Office action.

Claims 13-16, 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

Prior art made of record but not relied upon is considered pertinent to Applicant's disclosure and consist of six patents.

Brown et al. (3,972,646) is cited to show a rotor having a hub and blades, each blade having an inner airfoil section and outer vane section but fails to teach the outer vane section having a length that is greater than a width.

Hsu (4,822,246) is cited to show a rotor having a hub and blades, each blade having an inner airfoil section and outer vane section but fails to teach the outer vane section protruding frontwardly.

Tomohiro et al. (4,893,990) is cited to show a rotor having a hub and blades, each blade having an inner airfoil section and outer vane section but fails to teach the outer vane section having a length that is greater than a width.

Chuang et al. (5,895,206) is cited to show a rotor having a hub and blades, each blade having an inner airfoil section and outer vane section but fails to teach the outer vane section having a length that is greater than a width.

Higashino et al. (6,648,936) is cited to show a rotor having a hub and blades, each blade having an inner airfoil section and outer vane section but fails to teach the outer vane section having a length that is greater than a width.

Hoshina et al. (D489,446S) is cited to show a rotor having a hub and blades, each blade having an inner airfoil section and outer vane section but fails to teach the inner vane section protruding rearwardly.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kershteyn whose telephone number is **(571)272-4817**. The examiner can be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached on **(571)272-4820**. The fax number is 571-273-8300.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308 0861.

/Igor Kershteyn/
Primary Examiner, Art Unit 3745